Remarks:

Reconsideration of the application is requested.

Claims 1 to 40 are now in the application. Claims 1 to 24 and 33 to 40 are subject to examination and claims 25 to 32 have been withdrawn from examination. Claims 33 to 36 have been amended. Claims 39 and 40 have been added.

In item 1 on pages 2 to 3 of the above-identified Office action, claims 1 to 4, 6, 7, 8 to 11, 12, 13 to 15, 23, and 33 to 36 have been rejected as being fully anticipated by Kortenbach (U.S. 5,707,392) under 35 U.S.C. § 102.

As will be explained below, it is believed that claims 1, 10, 15, and 23 were patentable over the cited art in their original form and, therefore, these claims have not been amended to overcome the references.

The rejection has been noted and claims 33 to 36 have been amended in an effort to even more clearly define the invention of the instant application. Support for the changes is found, for example, in FIGS. 10 and 14 and on page 19, line 23, to page 22, line 12, of the specification of the instant application.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 1 calls for, *inter alia*, a surgical clip applier, including:

> at least one of first and second jaws defining a channel extending substantially along the longitudinal extent and being shaped to guide a surgical clip, the first and second jaws adapted to slidably apply the surgical clip with the channel;
>
> at least one of the jaws is provided with teeth arranged to puncture and damage tissue adjacent to the surgical clip.

Claim 10 calls for, *inter alia*, a surgical clip applier, including:

> a first jaw having a longitudinal extent and a first clip guiding channel disposed substantially along the longitudinal extent and terminating in a first anvil;
>
> a second jaw having a longitudinal extent and a second clip guiding channel disposed substantially along the longitudinal extent and terminating in a second anvil,

the first and second jaws adapted to slidably apply a surgical clip with the first and second clip guiding channels.

In the rejection of claims 1 and 10, the Examiner indicates that the Kortenbach hermaphroditic stamped forceps jaw "discloses a forceps capable of applying clips."

Applicants respectfully submit that Kortenbach grasper is in no way able to hold or advance a clip in the disclosed jaws 51, 151. A necessary function of a clip applier is an ability to hold a clip and to advance a clip; the Kortenbach device cannot perform either function.

The Examiner further suggests that each of the Kortenbach jaws "has a channel (55)." It is respectfully noted that there is no hollow space in the jaws 51, 151 that can be used to "guide a surgical clip" as set forth in the independent claims of the instant application.

The Examiner continues the rejection and states that "[t]his channel (55) is most certainly capable of applying a surgical clip." It is respectfully noted that there is no suggestion in Kortenbach to apply a surgical clip with the device disclosed therein, let alone a disclosure of a feature that

can perform such clip application. One reason for the certainty of this conclusion is that there is no known surgical clip that is able to survive an implantation that is being suggested by the Examiner. In order to implant a clip with the Kortenbach device, the jaws must be (1) closed during insertion, (2) opened at the implantation site and, then, (3) closed again to fasten this hypothetical clip. There is no clip that can be placed in the jaws, compacted down so that the jaws can get to the implantation site, released back open again so that the jaws and clip can go around tissue, and then compacted down again to perform the clipping that a surgical clip is supposed to do.

It is noted that applicants are particularly knowledgeable about the ability of the Kortenbach jaw 51, 151 because the first of the named inventors of the instant application is the same Kortenbach that is the sole inventor in U.S. Patent No. 5,707,392 to Kortenbach. Applicants submit that the Kortenbach jaws 51, 151 do not define a channel and cannot apply, guide, fit, or even hold a surgical clip. The Kortenbach device is merely a biopsy forceps jaw and is, in no way, intended to apply a clip, nor can it apply such a clip.

The Examiner also states that each of the Kortenbach jaws 51 "has teeth capable of puncturing tissue, as shown in Figure

7." Applicants respectfully believe that such a conclusion is improper. There is no specifications whatsoever in Kortenbach that would suggest, let alone, disclose that the "teeth" shown in FIG. 7 can be used to "puncture" tissue. The Kortenbach device is a merely a biopsy forceps. Thus, it is used to grasp. It is not used to "puncture" tissue and, if it were to do so, would lose desirability because one having ordinary skill in the art knows that grasping tissue is done atraumatically, not to destroy the grasped tissue. From FIG. 7, one having ordinary skill in the art would know that the length, width, and angle of the serrations cannot be used to "puncture."

For all of these reasons, Kortenbach does not disclose the features of claims 1 and 10.

With regard to rejection of Claims 15, 23, and 33 to 36, the Examiner states that the Kortenbach device "has a linkage (36b) coupled to a pull wire and coupled to the clevis [Column 1, lines 58 to 61] and a second element (d38b) coupled (i.e. attached) to the first end effector (36a) for increasing the mechanical advantage of the effector closure." (Emphasis added by applicants.)

Claim 15 calls for, *inter alia*, an endoscopic surgical instrument, including:

a hollow member having a proximal end and a distal end;

a clevis coupled to the distal end of the hollow member;

a end effector rotatably coupled to the clevis;

a pull/push wire extending through the hollow member to the proximal end of the hollow member;

a linkage including:

a first rotating element rotatably coupled to the clevis and coupled to the push/pull wire; and

a second element rotatably coupled to the first rotating element and rotatably coupled to the end effector for increasing mechanical advantage of effector closure; and

actuation means coupled to the proximal end of the hollow member and the proximal end of the push/pull wire for moving the push/pull wire through the hollow member to cause a rotation of the end effector about the clevis.

Claim 23 calls for, *inter alia*, an endoscopic surgical instrument, including:

a linkage including at least two elements:

a first of the two elements rotatably coupled to the clevis and coupled to the push/pull wire; and

a second of the two elements rotatably coupled to the first element and to the end effector, the linkage providing mechanical advantage in rotating the end effector; and

actuation means coupled to the proximal end of the hollow member and the proximal end of the push/pull wire for

moving the push/pull wire through the hollow member to cause a rotation of the end effector about the clevis.

Claim 33, as amended, calls for, *inter alia*, an endoscopic surgical instrument, including:

a linkage including:

a first rotating element *separate from the end effector*, rotatably coupled to the clevis, and coupled to the push/pull wire; and

a second element rotatably coupled to the first rotating element and rotatably coupled to the end effector; and

actuation means coupled to the proximal end of the hollow member and the proximal end of the push/pull wire for moving the push/pull wire through the hollow member to cause a rotation of the end effector about the clevis.

Claim 34 calls for, *inter alia*, an endoscopic surgical instrument, including:

a linkage including:

a first of the two elements *separate from the end effector*, rotatably coupled to the clevis, and coupled to the push/pull wire; and

a second element rotatably coupled to the first element and rotatably coupled to the first end effector; and

an actuator coupled to the proximal end of the hollow member and the proximal end of the push/pull wire for moving the push/pull wire through the hollow member to cause a rotation of the end effector about the clevis.

Claim 35, as amended, calls for, *inter alia*, an endoscopic surgical instrument, including:

a linkage including at least *two* elements:

a first of the two elements *separate from the end effector*, rotatably coupled to the clevis, and coupled to the push/pull wire; and

a second of the two elements rotatably coupled to the first element and to the end effector, *the linkage providing mechanical advantage in rotating the end effector*; and

actuation means coupled to the proximal end of the hollow member and to the proximal end of the push/pull wire for moving the push/pull wire through the hollow member to cause a rotation of the end effector about the clevis.

Claim 36, as amended, calls for, *inter alia*, an endoscopic surgical instrument, including:

a linkage including at least *two* elements:

a first of the two elements *separate from the first end effector*, rotatably coupled to the clevis and coupled to the first push/pull wire; and

a second of the two elements rotatably coupled to the first element and to the end effector, the linkage providing mechanical advantage in rotating the end effector; and

an actuator coupled to the proximal end of the hollow member and the proximal end of the push/pull wire for moving the push/pull wire through the hollow member to cause a rotation of the end effector about the clevis.

It is respectfully noted that the second element 38b is not coupled (i.e. attached) to the first end effector 36a. A close review of the prior art disclosed in FIGS. 1 to 4 of Kortenbach reveals that the first end effector 36a is on a completely different and independent part than the second element 38b. Simply put, a first control wire 18 is connected to a proximal tang 38b of a first jaw 38. This first jaw 38 has a distal cutting edge 38a opposite the proximal tang 38b. The first jaw 38 is pivotably mounted about an axle pin 40. A second control wire 19 entirely unrelated to the first wire 18 is connected to a proximal tang 36b of a second jaw 36 that is entirely separate and distinct from the first jaw 38. This second jaw 36 also has a distal cutting edge 36a opposite the proximal tang 36b. The second jaw 38 is, likewise, pivotably mounted about the axle pin 40. Each jaw 36, 38 is operated independently of one another to pivot on the axle pin 40. Thus, the second element 38b is not connected to the first end effector 36a.

What is important to note about the prior art cited in FIGS. 1 to 4 of Kortenbach is that the control wires 18, 19 provide no *increase in* mechanical advantage of the jaws 36, 38 whatsoever. In fact, the opposite is true. The control wires 18, 19 are attached to a proximal tang 36b, 38b that has a length *shorter than* the length of the cutting edges 36a, 38a.

With the axle pin 40 acting as a fulcrum of the "see-saw" created by the jaws 36, 38, a given force F imparted on the tang 36b, 38b translates into a relatively *smaller force* f imparted on the cutting edges 36a, 38a. This principle is simple Newtonian mechanics -- it takes a greater force on a *smaller* side of the fulcrum to raise the opposing end of a *larger* side.

To compare the Kortenbach device with the invention claimed in claims 15, 23, or 33 to 36, something in that device must be said to increase the mechanical advantage over something else. The linkage according to the invention increases the mechanical advantage by being present and, if it were to be removed, the mechanical advantage of the end effector would be less. If the same exercise were performed on the Kortenbach device, it would become entirely useless -- if any part of the control wires 18, 19, the jaws 36, 38, the axle 40, or the clevis 34 were removed, then the devices shown in FIGS. 2, 3, 4, and 10 would no longer function.

Therefore, the prior art described in FIG. 1 to 4 of Kortenbach do not disclose or suggest the linkages set forth in claims 15, 23, or 33 to 36, and especially do not suggest a linkage that *increases the mechanical advantage* in rotating the end effector.

Claims 33 to 36 have been amended to explicitly provide that the linkage has at least *two* elements, with the first of the two elements being *separate from the end effector*, rotatably coupled to the clevis, and coupled to the push/pull wire. Such a configuration can be seen in FIGS. 2 to 5 and 10 to 14, for example. The linkages 62, 64, 66, 68 of the present invention clearly *increase* the mechanical advantage of the end effector and the first element is *separate from* the end effector 22, 24. Kortenbach neither suggests nor discloses such features.

Clearly, Kortenbach does not show a surgical clip applier or an endoscopic surgical instrument as recited in claims 1, 10, 15, 23, 33 to 36, or 39 to 40 of the instant application.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1, 10, 15, 23, 33 to 36, or 39 to 40. Claims 1, 10, 15, 23, 33 to 36, and 39 to 40 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on these independent claims.

Claims 39 and 40 have been added. The features of these claims are present in the original claims and, therefore, no new matter has been added. Kortenbach does not disclose or suggest the linkage having "a rotating element separate from said end effector, rotatably coupled to said clevis, and coupled to said first push/pull wire; and [measures] for coupling said rotating element and said end effector." Therefore, these claims are allowable over the cited prior art.

Finally, applicants appreciatively acknowledge the Examiner's statement that claims 5, 12, 16 to 22, 24, 37, and 38 "would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." In light of the above, applicants respectfully believe that rewriting of these claims is unnecessary at this time.

In view of the foregoing, reconsideration and allowance of claims 1 to 24 and 33 to 40 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made.

The extension fee for response within a period of two (2) months pursuant to Section 1.136(a) in the amount of $430.00 in accordance with Section 1.17 is enclosed herewith.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

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